



City of Portland
Bureau of
**Planning and
Sustainability**

Sam Adams, Mayor
Susan Anderson, Director

Planning

1900 S.W. 4th Ave., Ste. 7100
Portland, OR 97201-5350

Phone 503-823-7700
FAX 503-823-7800
TTY 503-823-6868

Sustainability

721 N.W. 9th Ave., Ste. 195
Portland, OR 97209-3447

Phone 503-823-7222
FAX 503-823-5311
TTY 503-823-6868

www.portlandonline.com/bps

An equal opportunity employer
 Printed on recycled paper

Memorandum

To: Planning Commission
From: Sallie Edmunds and Diane Hale
Subject: River Restoration Program and Revenue Estimate

This memo includes an update on the River Restoration Program and an estimate of the revenue that might be generated through River Plan / North Reach in-lieu fees over a 20-year period.

River Restoration Program

We continue to make progress developing the River Restoration Program. Our consultant, Tetra Tech, is in the process of developing a bank prospectus, the first step in the process of developing a certified mitigation bank under the rules set forth by the Oregon Department of State Lands and the U.S. Army Corps of Engineers. The prospectus will include the following: goals and objectives of the proposed bank, the service area, description of the proposed restoration sites, and a description of how the bank will be established and operated including the crediting and debiting procedures. The prospectus will be released for public review later this spring. Comments on the prospectus will inform the development of the banking instrument.

Tetra Tech will also provide us with a work plan to complete bank certification. The workplan tasks will be described in terms of the type of data that will be required, other entities that may be consulted, meetings that may occur with agency or City staff, deliverables that will be produced and an estimated timeline to complete the work. We will release this workplan when it is finished.

Revenue Estimate

The following table shows our current revenue estimates for the River Restoration Program in millions of dollars over 20 years. These estimates are rough and while they could be higher, they will more than likely be lower because they are built on a number of assumptions that may or may not come to pass.

	Potential Revenue	
	Low	High
Restoration	\$4.3	\$6.7
Mitigation	\$20	\$27.5
Balanced Cut and Fill	\$13.0	\$13.0
Total	\$37.3	\$47.2

We've discussed the restoration estimate with you (line 1 above) before but to recap, it is based on the anticipated development projected in the ED Hovee memo distributed to you at the February 2009 meeting. As you may recall, that memo estimated that development activity in the North Reach over the next 20 years will generate \$430 million - \$670 million in total project value. Total project value is the amount that appears on a development permit. That means that it would include the value of the building but not the equipment within the building.

Today we are including estimates of the revenue that might be generated through off site mitigation and balanced cut and fill (lines 2 and 3 above). These estimates were created by BPS staff in consultation with BES, BDS, PDC and industrial and environmental stakeholders. Staff used the following framework to generate the revenue estimates:

What revenue estimate can we expect from in-lieu fees for mitigation and balanced cut and fill in the next 20 years, as a result of development in the River Environmental overlay zone (e overlay) or the floodplain?

Step 1. Estimate how much land area is expected to develop in the next 20 years that is located in the e overlay and the floodplain.

Step 2. Estimate how much of the land area that is expected to develop (answer from step 1) will result in a fee in-lieu revenue stream.

Step 3. Calculate the estimated revenue from off-site mitigation and in-lieu fees related to balanced cut and fill requirements.

Step 4. Add design, permitting and long-term management fee.

As noted in the table above, the in-lieu fee revenue estimate from off-site mitigation ranges from ~20 to 28 million dollars, and from balanced cut and fill is ~13 million. These figures include a 100% design, permitting and long term management fee. This fee is described in the next section. Please see the attached sheets for the detailed methodology.

Design, permitting and long term management fee

The figures used in the mitigation estimates and in the restoration cost estimates memo cover the cost of construction. The design, permitting and long-term management fee represents the elements of restoration project development that require funding in addition to construction.

These elements include:

- project management;
- alternatives analysis report;
- engineering design;
- existing conditions, wetlands, and ordinary high water (OHW) boundary surveys;
- wetland delineation,
- OHW determination field work and reports;
- hydraulic and hydrologic report and modeling;
- archaeological survey and reporting;
- geotechnical site analysis and report;
- hydrology data collection (groundwater, stream flow data, etc.);
- sediment and water quality sampling and reporting (including Phase 1 report);
- permitting;
- construction outreach;
- post construction such as as-built survey,
- long-term monitoring, and long-term maintenance.

Staff estimates this fee at 100% of the construction cost but we do not expect that the charge will be 100% in all cases because not all tasks will be required for all restoration sites and some economies of scale will be possible. We recommend that this fee be scaled and that it be factored into the crediting system when the River Restoration Program's bank is established.

Attachments

REVENUE ESTIMATE FOR IN-LIEU FEES FROM OFF SITE MITIGATION (3/24/09)

All figures are in acres, except where noted.

**1. Land area in the e overlay we expect to develop in the next 20 years**

Total land area in e overlay (not including river)	420
Low range of what we expect to develop (25% of total e overlay)	105
High range of what we expect to develop (50% of total e overlay)	210

2. Land area we expect to develop that will be allowed off-site mitigation

Low range of what we expect to develop (25% of total e overlay)	105
35% of low range will be allowed off-site mitigation	37
High range of what we expect to develop (50% of total e overlay)	210
35% of high range will be allowed off-site mitigation	74

3. Revenue estimate for in-lieu fees from off-site mitigation**Part A: Above top of bank**

Low range estimate for acreage allowed off-site mitigation	37
Total acres in e overlay inside floodplain (64%)	24
Converted to sf, less 60,000 sf bank (assumes 30 ft wide bank)	974,136
Fee/ sf	\$3
Total fee	\$2,922,409

Total acres in e overlay outside floodplain (35%)	13
Converted to sf	566,694
Fee/ sf	\$1.15
Total fee	\$651,698

High range estimate for acreage allowed off-site mitigation	74
Total acres in e overlay inside floodplain (64.6%)	47
Converted to sf, less 60,000 sf bank (assumes 30 ft wide bank)	2,008,272
Fee/ sf	\$3
Total fee	\$6,024,817

Total acres in e overlay outside floodplain (35.4%)	26
Converted to sf	1,133,388
Fee/ sf	\$1.15
Total fee	\$1,303,396

Part B: Between the river and top of bank

Linear feet of bank work every year	100
Total linear feet over 20 years	2,000
Linear feet that will be allowed off-site mitigation over 20 years (35%)	700
Fee/linear foot	\$1,500
Total fee revenue (20 years)	\$1,050,000

Bank sf calculation	
Total square feet assuming 30 feet wide bank	60,000

Part C: In-water work

Assume 4 new docks (60,000 sf each) over 20 years	240,000
Fee/ sf	\$22.50
Total fee revenue	\$5,400,000

4. Design, Permitting, and Long-term Management Fee

Add 100% fee for project design, permitting and long-term management activities

TOTAL REVENUE ESTIMATES (20 YEARS)	Step 3 total	100% mgmt. fee	TOTAL
Low Range	\$10,024,106	\$10,024,106	\$20,048,213
High Range	\$13,778,213	\$13,778,213	\$27,556,426

*Note: Cleanup activities are not included because they are not subject to the river environmental overlay zone regulations.

REVENUE ESTIMATE FOR IN-LIEU FEES FROM BALANCED CUT AND FILL (3/24/09)

All figures are in acres, except where noted.

1. Land area in the floodplain we expect to develop in the next 20 years

Total land area in floodplain (not including river)	752
Vacant land area in floodplain	290
What we expect to develop (35% of vacant land area)	102

2. Land area subject to balanced cut and fill requirements that will require a compensatory off-site cut

Total acres we expect to develop in next 20 years in the floodplain	102
Total acres we expect to develop that will require fill (80%)	81
Total acres with fill that will require an off-site cut to compensate (50%)	41

3. Revenue estimate

Area requiring an off-site cut to compensate for fill (acres)	41
Area requiring an off-site cut to compensate for fill (cubic feet)	1,768,536
Area requiring an off-site cut to compensate for fill (cubic yards)	65,501
average amount of fill required (feet)	2
Fee/cubic foot	\$1.85
Total revenue estimate for balanced cut and fill	6,543,583

4. Design, Permitting, and Long-term Management Fee

Add 100% fee for project design, permitting and long-term management a	\$6,543,583
--	-------------

TOTAL REVENUE ESTIMATE (20 YEARS) \$13,087,166

METHODOLOGY - REVENUE ESTIMATE FOR IN-LIEU FEES FROM OFF-SITE MITIGATION & BALANCED CUT AND FILL (3/24/09)

Research Question: What revenue estimate can we expect from in-lieu fees for mitigation and balanced cut and fill in the next 20 years, as a result of development in the River Environmental overlay zone (e overlay) or the floodplain in the North Reach?

The methodology for answering the question was developed by BPS staff, in consultation with BES, BDS, PDC, and industrial and environmental stakeholders. Assumptions were generated by staff unless noted.

North Reach statistics (acres)

e overlay (land): 420

e overlay (river): 2,078

floodplain inside the e overlay (not including river): 271.5

floodplain outside the e overlay: 480.6

Mitigation

Methodology Steps -

1. Estimate how much land area is expected to develop in the next 20 years that is located in the e overlay.

- Use two assumptions (25% and 50%) representing the low and high ends of a range.

2. Estimate how much of the land area that is expected to develop (answer from step 1) will result in a fee in-lieu.

- Use the two land area figures derived in step 1 as base values. Assume that development on 35% of the land area will be allowed off-site mitigation and therefore result in a fee in-lieu.

3. Calculate the estimated revenue from off-site mitigation.

- The mitigation calculation corresponds to work in three different areas: above top of bank, between the river and top of bank, and in the water.

Above top of bank:

- Use the two levels of land area within the e overlay allowed off-site mitigation derived in step 2 as base values. Assume the fee is \$3.00/sf for work within the floodplain, and \$1.15/sf for work outside the floodplain, based on the restoration cost estimate developed by BPS and BES (see *River Plan / North Reach Acquisition and Restoration Cost Estimates* memo dated 2/17/09 for more information). Assume the same ratio of acreage that is within or outside the floodplain matches the ratio of total e overlay land area that is within (64.6% of total) or outside (35.4% of total) the floodplain.
- Remove the land area (60,000 sf) included in the calculation for the area between the river and top of bank from the above top of bank calculation, so it is not included in the overall estimate twice. See the next section for more information about this calculation.

Between the river and top of bank:

- Assume 100 linear feet of riverbank work takes place every year, and 35% of that is allowed to be mitigated off-site. Assume the fee is \$1500/linear foot, based on the restoration cost estimate developed by BPS and BES (see *River Plan / North Reach Acquisition and Restoration Cost Estimates* memo dated 2/17/09 for more information).
- Calculate the area of an “average riverbank” to determine how much land area needs to be removed from the land area within the floodplain in the above top of bank calculation. The “average riverbank” figure assumes a 1:2 bank ratio, with a 30 ft. elevation top of bank, an 18

ft. elevation ordinary high water mark and a 10 ft. ordinary low water mark. The elevation of the riverward boundary of the e overlay falls somewhere between ordinary low water and ordinary high water, therefore an average of 14 ft. is used. Based on these assumptions, the average distance between the riverward boundary of the e overlay and the top of bank is 30 feet. Therefore, the total area of the “average riverbank” represents 60,000 sf within the e overlay over 20 years (30 ft x 2000 ft). This amount is deducted from the figure used for land area within the floodplain in the above top of bank calculation.

In water work:

- Assume 4 new docks (60,000 sf each) will be built over the next 20 years. Assume a fee of \$22.50/sf, based on the restoration cost estimate developed by BPS and BES (see *River Plan / North Reach Acquisition and Restoration Cost Estimates* memo dated 2/17/09 for more information).

4. Add design, permitting and long-term management fee.

- Add 100% fee multiplier that represents the elements of project design that require funding in addition to construction costs.

This methodology yields two estimates for off-site mitigation revenue representing low and high ends of a range.

Balanced Cut and Fill

Methodology Steps -

1. Estimate how much land area is expected to develop in the next 20 years that is located in the floodplain.

- There are 752 acres in the floodplain inside the area evaluated for proposed zoning in the North Reach. Of this total, ~290 acres are vacant. A development projection completed by E.D. Hovee states that approximately 35% to 55% of the vacant land within the floodplain will develop over 20 years. To be conservative, assume that 35% of the vacant land within the floodplain is expected to develop in the next 20 years.

2. Estimate how much of the land area that is expected to develop (answer from step 1) will result in a fee in-lieu revenue stream.

- Use the figure derived in step 1 as a base value. Assume that 80% of the land area that is expected to develop in the floodplain will require fill. Assume that 50% of the land that will require fill will need an off-site cut to compensate.

3. Calculate the estimated revenue for in-lieu fees related to balanced cut and fill requirements.

- Assume the land area derived in step 2 as a base value. Assume that an average of 2 feet of fill is required. Assume the off-site cut locations are not contaminated and the fee is \$1.85/cubic foot, based on the restoration cost estimate developed by BPS and BES (see *River Plan / North Reach Acquisition and Restoration Cost Estimates* memo dated 2/17/09 for more information).

4. Add design, permitting and long-term management fee.

- Add 100% fee multiplier that represents the elements of project design that require funding in addition to construction costs.

This methodology yields one estimate for revenue related to balanced cut and fill.